

**BZ7479 BROM SLVNT DGRSR R19135 5 GAL**

Version 1.0

Revision Date 10/18/2014

Print Date 03/31/2016

**SECTION 1. PRODUCT AND COMPANY IDENTIFICATION**

Material name : BZ7479 BROM SLVNT DGRSR R19135 5 GAL

Material number : 00000000001041593

**Manufacturer or supplier's details**

Company : Zep Inc.

Address : 1310 Seaboard Industrial Blvd., NW  
Atlanta, GA 30318

Telephone : 404-352-1680

**Emergency telephone numbers**
**For SDS Information** : Compliance Services 1-877-428-9937

**For a Medical Emergency** : 877-541-2016 Toll Free - All Calls Recorded

**For a Transportation Emergency** : CHEMTREC: 800-424-9300 - All Calls Recorded.  
In the District of Columbia 202-483-7616

**SECTION 2. HAZARDS IDENTIFICATION**
**Emergency Overview**

Appearance	liquid
Colour	colourless, clear
Odour	characteristic

**GHS Classification**

Flammable liquids : Category 2  
 Skin irritation : Category 2  
 Eye irritation : Category 2A  
 Carcinogenicity : Category 2  
 Reproductive toxicity : Category 1B  
 Specific target organ toxicity - single exposure : Category 3 (Respiratory system, Central nervous system)  
 Specific target organ toxicity - repeated exposure (Inhalation) : Category 2

**GHS Label element**

Hazard pictograms :   

Signal word : Danger

Hazard statements : H225 Highly flammable liquid and vapour.  
 H315 Causes skin irritation.  
 H319 Causes serious eye irritation.  
 H335 May cause respiratory irritation.

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H336 May cause drowsiness or dizziness.  
 H351 Suspected of causing cancer.  
 H360 May damage fertility or the unborn child.  
 H373 May cause damage to organs through prolonged or repeated exposure if inhaled.

## Precautionary statements

: **Prevention:**

P201 Obtain special instructions before use.  
 P202 Do not handle until all safety precautions have been read and understood.  
 P210 Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.  
 P233 Keep container tightly closed.  
 P240 Ground/bond container and receiving equipment.  
 P241 Use explosion-proof electrical/ ventilating/ lighting/ equipment.  
 P242 Use only non-sparking tools.  
 P243 Take precautionary measures against static discharge.  
 P260 Do not breathe dust/ fume/ gas/ mist/ vapours/ spray.  
 P264 Wash skin thoroughly after handling.  
 P271 Use only outdoors or in a well-ventilated area.  
 P280 Wear protective gloves/ eye protection/ face protection.  
 P281 Use personal protective equipment as required.

**Response:**

P303 + P361 + P353 IF ON SKIN (or hair): Remove/ Take off immediately all contaminated clothing. Rinse skin with water/ shower.  
 P304 + P340 + P312 IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing. Call a POISON CENTER or doctor/ physician if you feel unwell.  
 P305 + P351 + P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.  
 P308 + P313 IF exposed or concerned: Get medical advice/ attention.  
 P332 + P313 If skin irritation occurs: Get medical advice/ attention.  
 P337 + P313 If eye irritation persists: Get medical advice/ attention.  
 P362 Take off contaminated clothing and wash before reuse.  
 P370 + P378 In case of fire: Use dry sand, dry chemical or alcohol-resistant foam for extinction.

**Storage:**

P403 + P233 Store in a well-ventilated place. Keep container tightly closed.  
 P403 + P235 Store in a well-ventilated place. Keep cool.  
 P405 Store locked up.

**Disposal:**

P501 Dispose of contents/container in accordance with local regulation.

**Potential Health Effects****Carcinogenicity:**

IARC

Group 2B: Possibly carcinogenic to humans  
 1,2-epoxybutane

106-88-7

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<b>ACGIH</b>	No component of this product present at levels greater than or equal to 0.1% is identified as a carcinogen or potential carcinogen by ACGIH.
<b>OSHA</b>	No component of this product present at levels greater than or equal to 0.1% is identified as a carcinogen or potential carcinogen by OSHA.
<b>NTP</b>	No component of this product present at levels greater than or equal to 0.1% is identified as a known or anticipated carcinogen by NTP.

**SECTION 3. COMPOSITION/INFORMATION ON INGREDIENTS**

Substance / Mixture : Mixture

**Hazardous components**

Chemical Name	CAS-No.	Concentration [%]
1-bromopropane	106-94-5	>= 90 - <= 100
propan-1-ol	71-23-8	>= 1 - < 5
1,2-epoxybutane	106-88-7	>= 1 - < 5

**SECTION 4. FIRST AID MEASURES**

General advice	: Move out of dangerous area. Consult a physician. Show this safety data sheet to the doctor in attendance. Do not leave the victim unattended.
If inhaled	: Consult a physician after significant exposure. If unconscious place in recovery position and seek medical advice.
In case of skin contact	: If skin irritation persists, call a physician. If on skin, rinse well with water. If on clothes, remove clothes.
In case of eye contact	: Small amounts splashed into eyes can cause irreversible tissue damage and blindness. In the case of contact with eyes, rinse immediately with plenty of water and seek medical advice. Continue rinsing eyes during transport to hospital. Remove contact lenses. Protect unharmed eye. Keep eye wide open while rinsing. If eye irritation persists, consult a specialist.
If swallowed	: Keep respiratory tract clear. Do NOT induce vomiting. Do not give milk or alcoholic beverages. Never give anything by mouth to an unconscious person. If symptoms persist, call a physician. Take victim immediately to hospital.

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**SECTION 5. FIREFIGHTING MEASURES**

- Suitable extinguishing media : Alcohol-resistant foam  
Carbon dioxide (CO<sub>2</sub>)  
Dry chemical
- Unsuitable extinguishing media : High volume water jet
- Hazardous combustion products : Carbon dioxide (CO<sub>2</sub>)  
Carbon monoxide  
Smoke  
Bromine compounds
- Specific extinguishing methods : Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.
- Special protective equipment for firefighters : Wear self-contained breathing apparatus for firefighting if necessary.
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**SECTION 6. ACCIDENTAL RELEASE MEASURES**

- Personal precautions, protective equipment and emergency procedures : Use personal protective equipment.  
Ensure adequate ventilation.  
Remove all sources of ignition.  
Evacuate personnel to safe areas.  
Beware of vapours accumulating to form explosive concentrations. Vapours can accumulate in low areas.
- Environmental precautions : Prevent product from entering drains.  
Prevent further leakage or spillage if safe to do so.  
If the product contaminates rivers and lakes or drains inform respective authorities.
- Methods and materials for containment and cleaning up : Contain spillage, and then collect with non-combustible absorbent material, (e.g. sand, earth, diatomaceous earth, vermiculite) and place in container for disposal according to local / national regulations (see section 13).
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**SECTION 7. HANDLING AND STORAGE**

- Advice on safe handling : Avoid formation of aerosol.  
Do not breathe vapours/dust.  
Avoid exposure - obtain special instructions before use.  
Avoid contact with skin and eyes.  
For personal protection see section 8.  
Smoking, eating and drinking should be prohibited in the application area.  
Take precautionary measures against static discharges.  
Provide sufficient air exchange and/or exhaust in work rooms.  
Container may be opened only under exhaust ventilation hood.  
Open drum carefully as content may be under pressure.  
To avoid spills during handling keep bottle on a metal tray.
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Dispose of rinse water in accordance with local and national regulations.

Conditions for safe storage : No smoking.  
 Keep container tightly closed in a dry and well-ventilated place.  
 Containers which are opened must be carefully resealed and kept upright to prevent leakage.  
 Observe label precautions.  
 Electrical installations / working materials must comply with the technological safety standards.

Materials to avoid : Keep away from oxidising agents and strongly acid or alkaline materials.

**SECTION 8. EXPOSURE CONTROLS/PERSONAL PROTECTION**
**Components with workplace control parameters**

Components	CAS-No.	Value type (Form of exposure)	Control parameters / Permissible concentration	Basis
1-bromopropane	106-94-5	TWA	10 ppm	ACGIH
propan-1-ol	71-23-8	TWA	100 ppm	ACGIH
		TWA	200 ppm 500 mg/m <sup>3</sup>	NIOSH REL
		ST	250 ppm 625 mg/m <sup>3</sup>	NIOSH REL
		TWA	200 ppm 500 mg/m <sup>3</sup>	OSHA Z-1
		STEL	250 ppm 625 mg/m <sup>3</sup>	OSHA P0
		TWA	200 ppm 500 mg/m <sup>3</sup>	OSHA P0
1,2-epoxybutane	106-88-7	TWA	2 ppm	US WEEL

**Personal protective equipment**

Respiratory protection : In the case of vapour formation use a respirator with an approved filter.

Hand protection  
 Remarks : The suitability for a specific workplace should be discussed with the producers of the protective gloves.

Eye protection : Eye wash bottle with pure water  
 Tightly fitting safety goggles  
 Wear face-shield and protective suit for abnormal processing problems.

Skin and body protection : impervious clothing  
 Choose body protection according to the amount and concentration of the dangerous substance at the work place.

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Hygiene measures : When using do not eat or drink.  
When using do not smoke.  
Wash hands before breaks and at the end of workday.

**SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES**

Appearance : liquid

Colour : colourless, clear

Odour : characteristic

Odour Threshold : no data available

pH : no data available

Melting point/freezing point : no data available

Boiling point : 70 °C

Flash point :  
no data available

Evaporation rate : < 1

Upper explosion limit : 9.5 %(V)

Lower explosion limit : 3.8 %(V)

Vapour pressure : 147.72 hPa

Relative vapour density : no data available

Density : 1.316 g/cm<sup>3</sup>

Solubility(ies)

Water solubility : slightly soluble

Partition coefficient: n-octanol/water : no data available

Auto-ignition temperature : not determined

Thermal decomposition : no data available

Viscosity

Viscosity, kinematic : 2.1 mm<sup>2</sup>/s (20 °C)

**SECTION 10. STABILITY AND REACTIVITY**

Chemical stability : Stable under normal conditions.

Possibility of hazardous reactions : Vapours may form explosive mixture with air.

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Conditions to avoid	: Heat, flames and sparks.
Incompatible materials	: Oxidizing agents Metals Acids Alkali metals Aluminium Zinc
Hazardous decomposition products	: Carbon monoxide, carbon dioxide and unburned hydrocarbons (smoke). Bromine

**SECTION 11. TOXICOLOGICAL INFORMATION****Acute toxicity****Product:**

Acute oral toxicity	: Acute toxicity estimate : > 5,000 mg/kg Method: Calculation method
Acute inhalation toxicity	: Acute toxicity estimate : > 40 mg/l Exposure time: 4 h Test atmosphere: vapour Method: Calculation method
Acute dermal toxicity	: Acute toxicity estimate : > 5,000 mg/kg Method: Calculation method

**Skin corrosion/irritation****Product:**

Remarks: Extremely corrosive and destructive to tissue.

**Serious eye damage/eye irritation****Product:**

Remarks: May irritate eyes.

**Respiratory or skin sensitisation**

no data available

**Germ cell mutagenicity**

no data available

**Carcinogenicity**

no data available

**Reproductive toxicity**

no data available

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1-bromopropane:  
 propan-1-ol:  
 1,2-epoxybutane:

**STOT - single exposure**

no data available

**STOT - repeated exposure**

no data available

**Aspiration toxicity**

no data available

**Further information****Product:**

Remarks: Symptoms of overexposure may be headache, dizziness, tiredness, nausea and vomiting., Concentrations substantially above the TLV value may cause narcotic effects., Solvents may degrease the skin.

**SECTION 12. ECOLOGICAL INFORMATION****Ecotoxicity**

no data available

**Persistence and degradability**

no data available

**Bioaccumulative potential****Product:**

Partition coefficient: n-  
 octanol/water : Remarks: no data available

**Components:**

**1-bromopropane :**  
 Partition coefficient: n-  
 octanol/water : Pow: 2.1

**1,2-epoxybutane :**  
 Partition coefficient: n-  
 octanol/water : Pow: 0.68

**Mobility in soil**

no data available

**Other adverse effects**

no data available

**Product:**

Regulation 40 CFR Protection of Environment; Part 82 Protection of  
 Stratospheric Ozone - CAA Section 602 Class I  
 Substances

Remarks This product neither contains, nor was manufactured

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with a Class I or Class II ODS as defined by the U.S. Clean Air Act Section 602 (40 CFR 82, Subpt. A, App.A + B).

Additional ecological information : no data available

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**SECTION 13. DISPOSAL CONSIDERATIONS****Disposal methods**

Waste from residues : Dispose of in accordance with local regulations.

Contaminated packaging : Empty remaining contents.  
Dispose of as unused product.  
Do not re-use empty containers.  
Do not burn, or use a cutting torch on, the empty drum.

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**SECTION 14. TRANSPORT INFORMATION****International regulation****UNRTDG**

Not regulated as a dangerous good

**IATA-DGR**

Not regulated as a dangerous good

**IMDG-Code**

Not regulated as a dangerous good

**Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code**

Not applicable for product as supplied.

**National Regulations****49 CFR**

Not regulated as a dangerous good

**Special precautions for user**

not applicable

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**SECTION 15. REGULATORY INFORMATION****EPCRA - Emergency Planning and Community Right-to-Know Act**

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**CERCLA Reportable Quantity**

Components	CAS-No.	Component RQ (lbs)	Calculated product RQ (lbs)
1,2-epoxybutane	106-88-7	100	*

\*: Calculated RQ exceeds reasonably attainable upper limit.

**SARA 304 Extremely Hazardous Substances Reportable Quantity**

This material does not contain any components with a section 304 EHS RQ.

**SARA 311/312 Hazards** : Acute Health Hazard  
Chronic Health Hazard  
Fire Hazard

**SARA 302** : SARA 302: No chemicals in this material are subject to the reporting requirements of SARA Title III, Section 302.

**SARA 313** : The following components are subject to reporting levels established by SARA Title III, Section 313:

1,2-epoxybutane	106-88-7	1 %
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**California Prop 65** WARNING: This product contains a chemical known to the State of California to cause birth defects or other reproductive harm.

1-bromopropane	106-94-5
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**The components of this product are reported in the following inventories:**

<b>TSCA</b>	On TSCA Inventory
<b>DSL</b>	All components of this product are on the Canadian DSL.
<b>AICS</b>	On the inventory, or in compliance with the inventory
<b>NZIoC</b>	On the inventory, or in compliance with the inventory
<b>PICCS</b>	On the inventory, or in compliance with the inventory
<b>IECSC</b>	On the inventory, or in compliance with the inventory

**Inventory Acronym and Validity Area Legend:**

AICS (Australia), DSL (Canada), IECSC (China), REACH (European Union), ENCS (Japan), ISHL (Japan), KECI (Korea), NZIoC (New Zealand), PICCS (Philippines), TSCA (USA)

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**SECTION 16. OTHER INFORMATION**

## BZ7479 BROM SLVNT DGRSR R19135 5 GAL

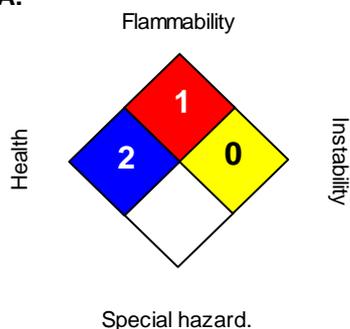
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## Further information

## NFPA:



## HMIS III:

HEALTH	2
FLAMMABILITY	1
PHYSICAL HAZARD	0

0 = not significant, 1 = Slight,  
2 = Moderate, 3 = High  
4 = Extreme, \* = Chronic

## OSHA GHS Label Information:

Hazard pictograms



Signal word

: **Danger:**

Hazard statements

: Highly flammable liquid and vapour. Causes skin irritation. Causes serious eye irritation. May cause respiratory irritation. May cause drowsiness or dizziness. Suspected of causing cancer. May damage fertility or the unborn child. May cause damage to organs through prolonged or repeated exposure if inhaled.

Precautionary statements

: **Prevention:** Obtain special instructions before use. Do not handle until all safety precautions have been read and understood. Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking. Keep container tightly closed. Ground/bond container and receiving equipment. Use explosion-proof electrical ventilating/ lighting/ equipment. Use only non-sparking tools. Take precautionary measures against static discharge. Do not breathe dust/ fume/ gas/ mist/ vapours/ spray. Wash skin thoroughly after handling. Use only outdoors or in a well-ventilated area. Wear protective gloves/ eye protection/ face protection. Use personal protective equipment as required.

**Response:** IF ON SKIN (or hair): Remove/ Take off immediately all contaminated clothing. Rinse skin with water/ shower. IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing. Call a POISON CENTER or doctor/ physician if you feel unwell. IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. IF exposed or concerned: Get medical advice/ attention. If skin irritation occurs: Get medical advice/ attention. If eye irritation persists: Get medical advice/ attention. Take off contaminated clothing and wash before reuse. In case of fire: Use dry sand, dry chemical or alcohol-resistant foam for extinction.

**Storage:** Store in a well-ventilated place. Keep container tightly closed. Store in a well-ventilated place. Keep cool. Store locked up.

**Disposal:** Dispose of contents/container in accordance with local regulation.

We believe the statements, technical information and recommendations contained herein are reliable, but they are given without warranty or guarantee of any kind. The information in this document applies to this specific material as supplied. It may not be valid for this material if it is used in combination with any other materials. Users should make their own investigations to determine the suitability and applicability of the information for their particular purposes. This SDS has been prepared by the Compliance Services organization supporting this manufacturer, supplier or distributor.

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Zep Inc. markets products under well recognized and established brand names such as Zep®, Zep Commercial®, Zep Professional®, Enforcer®, National Chemical™, Selig™, Misty®, Next Dimension™, Petro®, i-Chem®, TimeMist®, TimeWick™, MicrobeMax®, Country Vet®, Konk®, Original Bike Spirits®, Blue Coral®, Black Magic®, Rain-X®, Niagara National™, FC Forward Chemicals®, Rexodan®, Mykal™, and a number of private labeled brands.